

ABSTRACT OF THE DISCLOSURE

Catalysts for the water gas shift reaction contain a variety of late transition metals. The catalytic compositions contain a late transition metal carried on a support which is a carbide, nitride, or mixed carbide nitride of a group 6 metal such as molybdenum, tungsten, and mixtures thereof. The late transition metal includes ruthenium, cobalt, nickel, palladium, platinum, copper, silver, or gold. The water gas shift reaction may be catalyzed by contacting a gaseous stream containing carbon monoxide and water with such a solid catalyst composition. In some embodiments, the catalysts are several times more active than known commercial catalysts for the water gas shift reaction.